

NALAIYA THIRAN

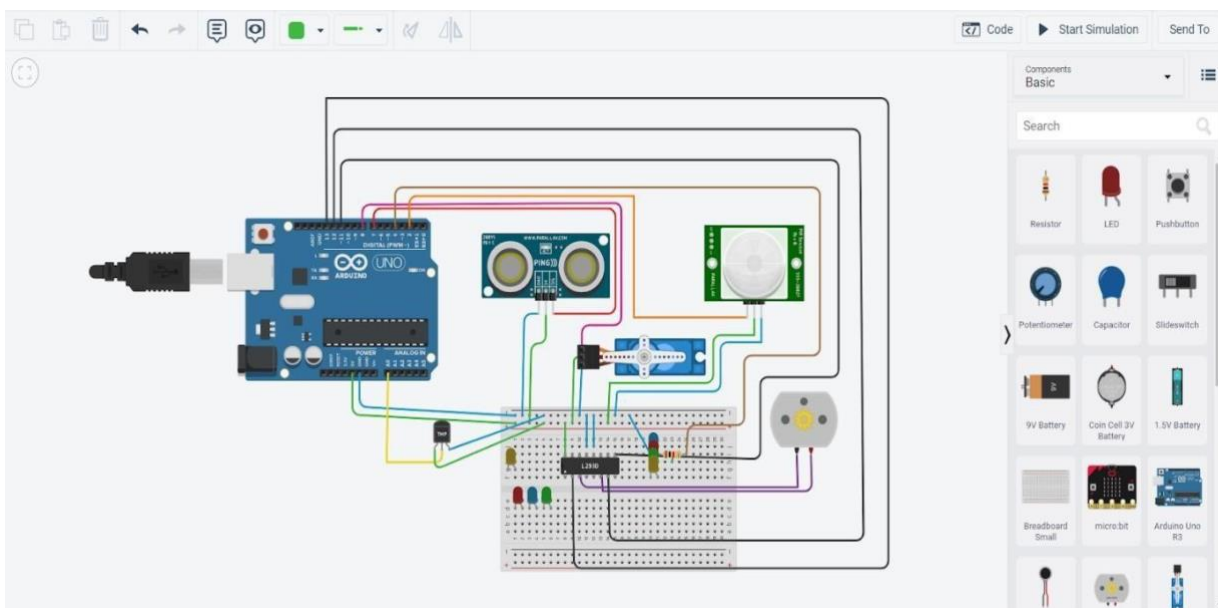
ASSIGNMENT-1

USER CASE: IOT Based Safety Gadget for Child Safety Monitoring and Notification.

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Make a Smart Home in Tinkercad using 2+ sensors, LED, Buzzer in single code and circuit.



CODE:

```
#include<Servo.h>
const int pingPin = 7;
int servoPin = 8;
Servo servo1; void
setup() {
  // initialize serial communication:
  Serial.begin(9600);
  servo1.attach(servoPin);
  pinMode(2,INPUT); pinMode(4,OUTPUT);
  pinMode(11,OUTPUT);
  pinMode(12,OUTPUT);
  pinMode(13,OUTPUT);
  pinMode(A0,INPUT);
  digitalWrite(2,LOW);
  digitalWrite(11,HIGH);
}
void loop() {
  long duration, inches, cm;
  pinMode(pingPin, OUTPUT);
  digitalWrite(pingPin, LOW);
  delayMicroseconds(2);
  digitalWrite(pingPin, HIGH);
```

```

    delayMicroseconds(5);
    digitalWrite(pingPin, LOW);
    // The same pin is used to read the signal from the PING))) : a HIGH pulse
    // whose duration is the time (in microseconds) from the sending of the ping
    // to the reception of its echo off of an object

```

```

pinMode(pingPin, INPUT); duration
= pulseIn(pingPin, HIGH); // coNvert the time into
    a      distance      inches      =
    microsecondsToInches(duration);    cm      =
    microsecondsToCentimeters(duration);
    //Serial.print(inches);
    //Serial.print("in, ");
    //Serial.print(cm);
    //Serial.print("cm");
    //Serial.println();
    //delay(100); servo1.write(0);
    if(cm < 40)
    {
        servo1.write(90);
        delay(2000);
    }
    else
    {
        servo1.write(0);
    }
    // PIR with LED starts int
    pir = digitalRead(2);
    if(pir == HIGH)
    {
        digitalWrite(4,HIGH);
        delay(1000);
    }
    else if(pir == LOW)
    {
        digitalWrite(4,LOW);
    }
    //temp with fan float
    value=analogRead(A0);
    float temperature=value*0.48;

```

```

Serial.println("temperature");
Serial.println(temperature);

```

```

if(temperature > 20)
{
    digitalWrite(12,HIGH);
    digitalWrite(13,LOW);
}
else
{
    digitalWrite(12,LOW);
    digitalWrite(13,LOW);
}
}

```

```

long microsecondsToInches(long microseconds) {
    return microseconds / 74 / 2;
}

```

```

long microsecondsToCentimeters(long microseconds) {

```

```
return microseconds / 29 / 2;  
}
```